

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A procedure method of intervention for correcting vision in an eye of a patient caused by defects in the cornea, eye said procedure method being performed with the aid of a computer system, said method comprising the steps of:
 - (a) inputting categorical data for an eye of the patient with visual correction methods and outcomes;
 - (b) inputting continuous data for said eye with visual correction methods and outcomes;
 - (c) examining the patient's said eye and building an optical model of said patient's eye including mapping input light rays and output light rays having a given intersection;
 - (d) comparing said model with said categorical and said continuous data with visual correction methods and outcomes;
 - (e) generating an initial ~~a~~ procedure recommendation for said patient's eye with a predicted outcome;
 - (f) comparing said predicted outcome with said categorical and continuous outcomes to determine acceptability; and
 - (g) performing said procedure when the predicted outcome is acceptable.

2. (Original) The procedure of claim 1 including the steps of iterating modifications of said procedure and comparing said predicted outcomes until a predicted outcome is acceptable.

3. (Currently Amended) The procedure of claim 1 including the step of inputting data from patient's said eye including visual correction method and outcome, and evaluating the outcome on patient's said eye.

4. (Original) The procedure of claim 1 wherein said computer system includes a display means for viewing said predicted outcome.

5. (Currently amended) The procedure of claim 1 wherein an RTE means is provided for converting said categorical and said continuous data ~~pass through a ray transfer element for~~ converting said data to wavefront aberrations.

6. (Currently amended) The procedure of claim 5 wherein said ~~ray transfer element~~ means ~~adapts said optical model to include~~ categorical and said continuous data include wavefront aberrations of past surgical procedures, thereby improving projections for subsequent procedures.

7. (Currently amended) A method of optimizing the predictability of a vision correction method comprising the steps of:

- (a) inputting a set of categorical data points for an eye with visual correction methods;
- (b) inputting a set of continuous data points for an eye with visual correction methods;
- (c) inputting outcome data points for visual correction methods;
- (d) examining a patient eye and building an optical a model of said patient eye, said model based on optics within said patient eye;
- (e) selecting a visual correction method for said patient eye based on said outcome data and generating an initial procedure recommendation;
- (f) predicting the outcome of said initial procedure recommendation for said patient eye;
- (g) evaluating said predicted outcome for acceptability; and
- (h) iterating a modification of said initial procedure recommendation and re-evaluating the predicted outcome until predicted outcome is acceptable.

8. (Currently amended) A method of optimizing the predictability of a vision correction method of claim 7 including the steps of:

- [[i)] (a) performing the procedure on said patient eye;
- [[j)] (b) evaluating the outcome of said procedure; and
- [[k)] (c) updating data points.

9. (New) A method of optimizing the predictability of a vision correction method of claim 7 comprising the steps of:

(a) said examining including providing an incident light ray to said eye, said incident light ray transmitted by said eye at an angle, said incident light ray and said transmitted light ray having an intersection point in a meridional plane; and

(b) computing the difference in elevation and azimuth between said incident ray and said transmitted ray to rotate said incident ray to coincide with said transmitted ray.

10. (New) A method of optimizing the predictability of a vision correction method of claim 7 comprising the steps of:

(a) evaluation of historical cases for similar data in terms of categorical and continuous data;

(b) select closest historical cases;

(c) average the actual postoperative outcome of said selected cases; and

(d) apply said average to said optical model.

11. (New) In a method of constructing a model of the eye for improved vision utilizing optical projections comprising the steps of:

(a) establishing a wavefront for an eye;

(b) providing a planar RTE oriented generally normal to the optical axis of said eye for passage of an incident light ray into said eye resulting in an outgoing light ray having an exit point in said eye;

(c) locate the intersection point of said incident light ray and a vector orthogonically intersecting said wavefront from said exit point;

(d) extending said vector to intersect said RTE;

(e) compute the mapping change in elevation and azimuth angles at said RTE necessary to rotate said incident ray to coincide with said vector and improve vision.